

**Abstrak**

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**VARIASI JARAK *PLATE SETTLER* MENGGUNAKAN METODE *PARALLEL PLATE SEPARATOR* DALAM MEREDUKSI KADAR MINYAK DAN LEMAK LIMBAH CAIR DOMESTIK**

x + 70 halaman + 14 Tabel + 10 Lampiran

Departemen Tenaga Kerja dan Transmigrasi menyebutkan bahwa setiap industri yang memperkerjakan diatas 200 orang supaya menyediakan kantin sendiri. Namun kegiatan kantin tersebut dapat menimbulkan limbah cair domestik, salah satunya berupa kadar minyak dan lemak. Ketika kadar minyak dan lemak berada di atas baku mutu, maka akan menutup suplai oksigen kedalam air sehingga akan menurunkan kualitas lingkungan dan menjadi sumber pembawa penyakit bagi manusia. Tujuan penelitian yaitu untuk mengetahui perbedaan penurunan kadar minyak dan lemak limbah cair domestik menggunakan metode *parallel plate separator* dengan variasi jarak *plate settler* sebesar 1 cm, 2 cm dan 3 cm. Penelitian berjenis quasi eksperimen dengan sampel penelitian yaitu limbah cair dapur PT. Chitose Internasional Tbk sebanyak 810 L. Hasil pengujian menggunakan Uji *One Way Anova* didapatkan *p value* sebesar 0,038 maka terdapat perbedaan pada setiap variasinya, dengan hasil pengujian sebanyak 6 kali pengulangan dan waktu detensi yang digunakan yaitu 1,5 jam didapatkan hasil rata-rata variasi jarak *plate settler* 1 cm sebesar 2,25 mg/L, variasi jarak *plate settler* 2 cm sebesar 4,87 mg/L dan variasi jarak *plate settler* 3 cm sebesar 7,05 mg/L. Air dan minyak akan berpisah karena adanya perbedaan berat jenis, dengan penambahan *plate settler* akan memperbesar luas penampang dan apabila jarak *plate settler* semakin dekat maka jarak jatuh partikel semakin pendek sehingga partikel akan tertahan dan meluncur ke permukaan air. Variasi jarak *plate settler* yang paling efisien yaitu jarak 1 cm dan 2 cm dengan hasil rata-rata penurunan dibawah baku mutu sebesar 5 mg/L. Peneliti selanjutnya diharapkan dapat menambahkan skimmer pada reaktor untuk menangkap minyak dan lemak setelah tertahan dan meluncur ke permukaan air.

DAFTAR PUSTAKA : 21 (2008-2019)

KATA KUNCI : Limbah cair dapur, Metode *parallel plate separator*, *plate settler*, minyak dan lemak

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**PLATE SETTLER DISTANCE VARIATIONS IN PARALLEL PLATE  
SEPARATOR METHOD TO DECREASE OILS LEVEL AND DOMESTIC  
WASTE WATER FATS**

X + 70 pages + 14 tables + 10 enclosures

Ministry of Manpower and Transmigration stated that every industry which employ more than 200 employees should provide their own canteen. But, the activities held by the canteen itself could also cause harm to the environment from the waste water. When oil and fat level number are exceeding the quality standards, they will shut off the oxygen supply to the water, with the effect of environmental quality degression and making it the source of human's illness. The purpose of this research is to know the difference between oils and fats reducer in kitchen's waste water by using parallel plate separator method with different plate settler distance variation which are 1 cm, 2 cm, and 3 cm. The type of this research is quasi experiment with 810 Liter of PT. Chitose International Tbk's kitchen's waste water as the sample. The result of the One Way Anova test shows the p value is 0,038, making a conclusion that there are differences of each distance variations, with the result of 6 times repetition and time detention used it 1,5 hours, showing the average result of plate settler distance variations with 2,25 mg/L for 1 cm plate settler distance variation, 4,87 mg/L for 2 cm plate settler distance variation, and 7,05 mg/L with 3 cm plate settler distance variation. Water and oil will be separating themselves when there is a density difference, with the addition of the plate settler, the cross-sectional wide will be wider and when the plate settler placed near close, the particle falling distance will become closer, so that the particle will be restrained and launches itself to the water surface. The most efficient plate settler distance variation is on 1 cm and 2 cm with the average number of degression is under the quality standars on 5 mg/L. The next researcher is expected to add skimmer to the reactor to catch the oil and fats after being restrained and lauches to the water surface.

**Bibliography** : 21 (2008 - 2019)

**Key Words** : Kitchen's waste water, Parallel Plate Separator Method,  
Plate Settler, Oils and Fats.